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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,490	11/05/2003	Paul Stone	3229/4	6284
7590	09/08/2005		EXAMINER	
David E. Dougherty Dennison, Schultz, Dougherty & MacDonald Suite 105 1727 King Street Alexandria, VA 22314			WOLFE, DEBRA M	
			ART UNIT	PAPER NUMBER
			3725	
DATE MAILED: 09/08/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/700,490	STONE ET AL.
	Examiner	Art Unit
	Debra Wolfe	3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 05 November 2003.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 7-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-6 is/are allowed.  
 6) Claim(s) 7-17 and 22 is/are rejected.  
 7) Claim(s) 18-21 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.



## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "third movable punch movable along a common a second axis which intersects with said first common axis" as claimed in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: forward end cap 40'; opposite end 73; loader 51; a carrier 55; a hydraulic servo 108; one end of movable robot arm



214. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 50 and 223. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because of the following informalities:

1. Figure 4A numeral 71' is missing, it is suggested to replace one of the numerals 71 with numeral 71';



2. Figure 10 designates the forged product numeral 205 but is disclosed in the specification that the forged product is to be numeral 215.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The following guidelines illustrate the *preferred layout* for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.



- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 7-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Page 4, line 7 of the specification states "It also includes a third moveable punch which is movable along a second axis which intersects with the first common axis or along the



first axis," however it is not disclosed within the specification how a multiple punch device comprising of three punches would be capable of operating within the apparatus as disclosed in Figures 3A and 3B. Further more, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear from the specification how the conveyor (loader/unloader) would be capable of placing a workpiece into a three punch device or removing a workpiece from a three punch device.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 17 recites the limitation "said second axes" in line 3. There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.



2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 12-16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cvacho et al (U.S. Patent # 3,628,368) in view of Bachmann (U.S. Patent # 3,824,833) in further view of Nakamura (JP Patent # 5-177291) and Fuchs Jr (U.S. Patent # 4,644,775) and Takayama (U.S. Patent # 6,192,285 B1). Cvacho et al discloses a work piece positioning apparatus and machine having a conveyor (cup receiver 57) for precisely positioning a cup-shaped workpiece into position at a die (60) from a supply source. Cvacho et al also discloses a punch (55, See FIG 10) with a moving means comprising of a motor (34), a housing assembly (53) and intermediate wheels, linkages, and drive connections (See col. 2, line 59). Cvacho et al does not disclose a conveyor that is capable of loading and unloading a workpiece from the die station. However, Bachmann discloses a forging press having a conveyor (See FIG 1) to load and unload workpieces to or from a forging working space (4). The generally J-shaped conveyor (See FIG 1A) of Bachmann comprises of a first pivot assembly (pivot spindle 7), a movable robot arm (handling lever 9) with a crank arm (See FIG 1), and an end effector (grippers 10) and is actuated by a piston-cylinder system (23, See col. 5, line 56).

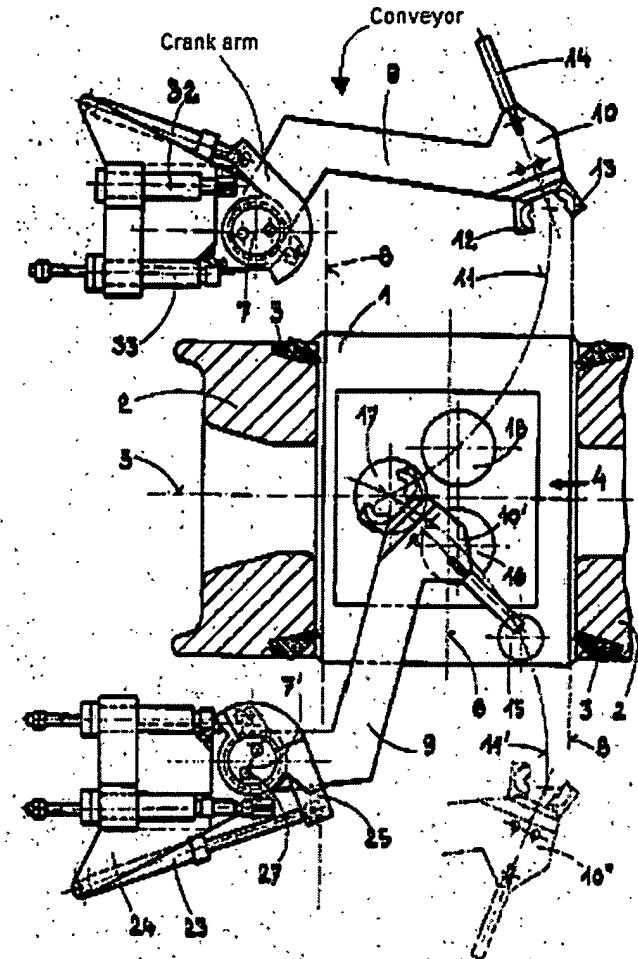


FIG: 1

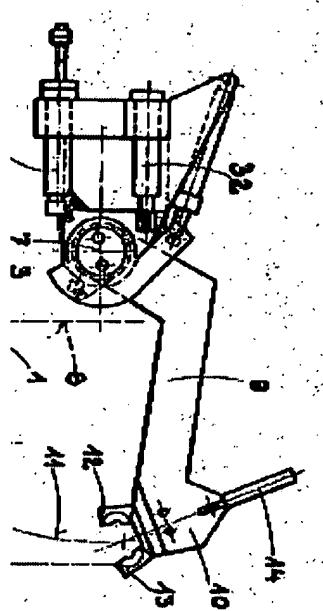


FIG: 1A

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cvacho et al with a conveyor which is capable of loading and unloading a workpiece from a supply source to a die station and then to a storage area as taught by Bachmann in order to effectively load and unload a workpiece in a timely and efficient manner.

2. Cvacho et al does not disclose a first and second punch assembly having inner and outer punches. However, Nakamura discloses a closed forging device having a first and second punch assembly (See FIG 2) each comprising of an inner punch (42, 44) that is surrounded by the outer



punches (40) and is in sliding engagement therewith. Nakamura also shows in FIG 2 each inner (42, 44) and outer (40) punch share a common axis and the punch assemblies are in a confronting relationship to one another.

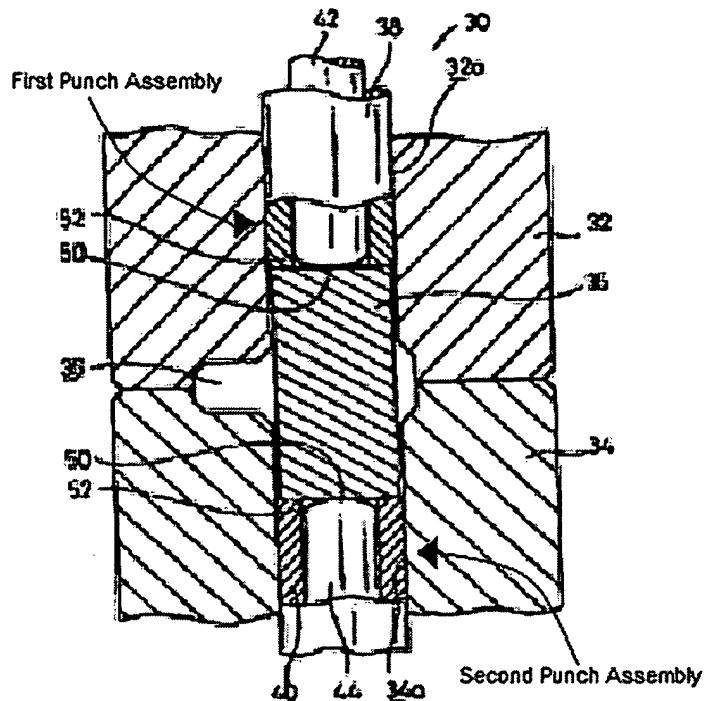


FIG: 2

Although the apparatus of Cvacho et al only contains a single punch the complexity of the drawing was simple and two punches was not needed, however Nakamura teaches the use of multiple punch assemblies to form complex shapes. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cvacho et al with the multiple punch assemblies as taught in Nakamura in order to be capable of forging complex shapes at a single station.



3. Although Cvacho et al discloses a die (60) it does not disclose the actuating means to be cylinders. However, Fuchs Jr teaches it is understood by those skilled in the art "that the pressurized fluid or hydraulic control circuitry for operating the structural elements of apparatus 40 may be any one of several suitable pressurized fluid or hydraulic circuitry systems known to the art which may be operated in the manner known to the art for controlling the operation and sequence of operation of such structural elements." (See col. 4, line 46) Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cvacho et al with the actuating means for the die and punches as taught by Fuchs Jr since Fuchs Jr discloses it is known in the art to use that type of actuating means for operation of such structural elements.

4. As stated in Fuchs Jr it is known in the art to use a control means, as disclosed by Takayama, for controlling the dies and conveyor of Cvacho et al. Takayama discloses a controller for work transfer systems having a programmable logic controller (transfer system controller 23) comprising of a transfer controlling PLC (30), a main CPU (31) and a servo CPU (32) for controlling the servo motor (12) of the feed bars (11) (See FIG 3 and col. 5, line 38).

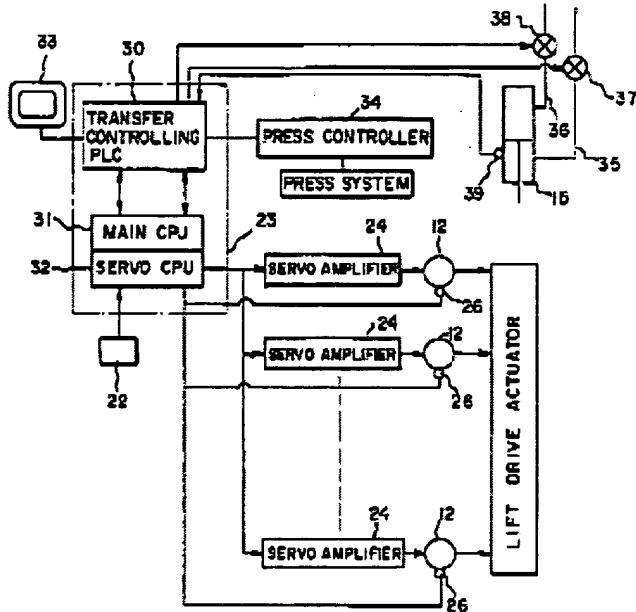


FIG: 3

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cvacho et al with a programmable logic controller and servo actuator for rotation of the robot arm as taught by Takayama in order to provide efficient movement of the punches and conveyor.

*Allowable Subject Matter*

1. It is the opinion of the examiner that the art of record (considered as a whole) neither anticipates nor renders obvious "A conveyor comprising...an end effector including first and second carrier elements with said first carrier element fixed to said robot arm and said second carrier element pivotally connected to said first carrier element for rotation about a second axis and said first and said second carrier elements adapted to receive a work piece therebetween when in a closed position; said second of said carrier elements including a concave upper portion adapted to receive a forged product thereon when in a closed position and an outwardly



extending finger; an unloading actuator for engaging said outwardly engaging finger as said robot arm rotates about said first axis to move said second carrier element into an unloading position to deliver the forged product to a storage area, and means for returning said second carrier element to its closed position after delivery of said forged product" in combination with the rest of the claimed limitations set forth in the independent claim.

Further searching by the examiner yielded additional prior art as follows:

2. Bachmann (U.S. Patent # 3,824,833) discloses a forging press having a conveyor (See FIG 1) for conveying a forged product to and from dies and the working space (4). The conveyor (See FIG 1) comprises of a pivot assembly (pivot spindle 7), a movable robot arm (handling lever 9) with a crank arm (See FIG 1 above), and end effector (grippers 10) with two movable jaws (12, 13) and is actuated by a piston-cylinder system (23, See col. 5, line 56). Toeniskoetter (U.S. Patent # 6,125,683) discloses a closure panel hemming system having a conveyor (See FIG 4). The conveyor (See FIG 4) comprises of a pivot assembly (See FIG 4), a movable robot arm (18) with a crank arm (robot 16), an end effector (20) and first and second carrier elements (pivoting clamping fingers 29).

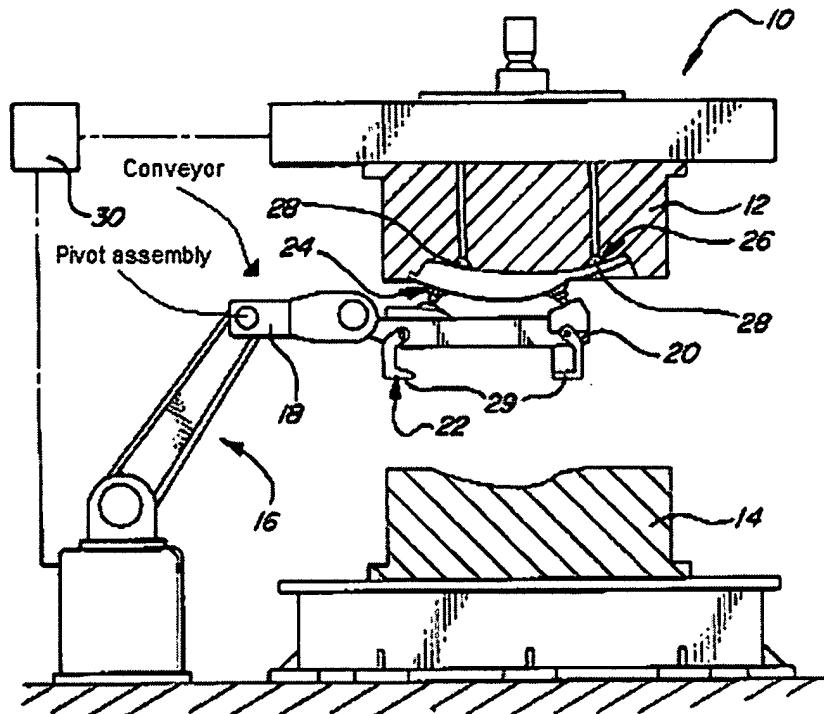


FIG: 4

3. However the above cited prior art fails to disclose the first and second carrier elements whereby "said first carrier element fixed to said robot arm and said second carrier element pivotally connected to said first carrier element for rotation about a second axis and said first and said second carrier elements adapted to receive a work piece therebetween when in a closed position; said second of said carrier elements including a concave upper portion adapted to receive a forged product thereon when in a closed position and an outwardly extending finger; an unloading actuator for engaging said outwardly engaging finger as said robot arm rotates about said first axis to move said second carrier element into an unloading position to deliver the forged product to a storage area, and means for returning said second carrier element to its closed



position after delivery of said forged product". Therefore, it is concluded by the examiner that claim 1-6 of the present invention is allowable subject matter.

4. Claims 18-21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. U.S. Patent # 2,513,710 to Brauchler discloses a press forging apparatus having multiple punches

2. U.S. Patent # 2,424,075 to Brauchler discloses a method of forming cylinder heads using a multiple punch apparatus

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Wolfe whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 6am - 3:30pm with alternating Fridays 6am - 2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached at (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Debra Wolfe  
Examiner  
Art Unit 3725



DERRIS H. BANKS  
SUPERVISORY PATENT EXAMINER  
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